

WHAT IS CLAIMED IS:

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1. A method of updating parity data in a redundant array of independent disk
2 (RAID) clustered environment comprising:

- 3 (a) locking parity data, without communicating with other nodes, for data
4 managed in SCSI (small computer systems interface) disks in a RAID clustered system,
5 wherein the locking prevents other nodes from modifying the parity;
6 (b) reading the parity data;
7 (c) generating new parity data by exclusive oring data from a first node and a
8 second node;
9 (d) writing the parity data to a SCSI disk in the RAID system; and
10 (e) unlocking the parity data.

1 2. The method of claim 1, wherein the locking comprises issuing a RESERVE
2 command.

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1 3. The method of claim 1, wherein the unlocking comprises issuing a RELEASE
2 command.

1 4. The method of claim 1, wherein the locking and reading steps are combined.

1 5. The method of claim 1, wherein the writing and unlocking steps are
2 combined.

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1 6. The method of claim 1 wherein the RAID system is RAID-4.

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7. The method of claim 1 wherein the RAID system is RAID-5.

8. The method of claim 1 wherein the RAID system is RAID-6.

9. An apparatus for updating parity data in a redundant array of independent disk (RAID) clustered environment comprising:

(a) a plurality of SCSI (small computer systems interface) storage devices organized in a RAID clustered system;

(b) data stored in the plurality of SCSI storage devices;

(b) a first node, operatively coupled to the SCSI storage devices, that manages storage and retrieval of the data in the data storage devices, wherein the first node is configured to:

(i) lock parity data without communicating with other nodes, wherein the lock prevents other nodes from modifying the parity;

(ii) read the parity data;

(iii) generate new parity data by exclusive oring data from two nodes;

(iv) write the parity data to a SCSI disk in the RAID system; and

(v) unlock the parity data.

10. The apparatus of claim 9, wherein the first node locks the parity data by issuing a RESERVE command.

11. The apparatus of claim 9, wherein the first node unlocks the parity data by issuing a RELEASE command.

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12. The apparatus of claim 9, wherein the first node is further configured to
2 combine the logic for locking and reading.

13. The apparatus of claim 9, wherein the first node is further configured to
2 combine the logic for writing and unlocking.

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14. The apparatus of claim 9 wherein the RAID system is RAID-4.

15. The apparatus of claim 9 wherein the RAID system is RAID-5.

16. The apparatus of claim 9 wherein the RAID system is RAID-6.

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17. An article of manufacture, embodying logic to perform method steps of
2 updating parity data in a redundant array of independent disk (RAID) clustered
3 environment, the method steps comprising the steps of:
4 (a) locking parity data without communicating with other nodes, wherein the
5 locking prevents other nodes from modifying the parity;
6 (b) reading the parity data;
7 (c) generating new parity data by exclusive oring data from two nodes;
8 (d) writing the parity data to a SCSI (small computer systems interface) disk in
9 the RAID system; and
10 (e) unlocking the parity data.

18. The article of manufacture of claim 17, wherein the locking comprises
2 issuing a RESERVE command.

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19. The article of manufacture of claim 17, wherein the unlocking comprises
issuing a RELEASE command.

1 20. The article of manufacture of claim 17, wherein the locking and reading steps
2 are combined.

1 21. The article of manufacture of claim 17, wherein the writing and unlocking
2 steps are combined.

1 22. The article of manufacture of claim 17 wherein the RAID system is RAID-4.

1 23. The article of manufacture of claim 17 wherein the RAID system is RAID-5.

1 24. The article of manufacture of claim 17 wherein the RAID system is RAID-6.

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